Ministry of Economics
Republic of Latvia

INDUSTRIAL DEVELOPMENT GUIDELINES OF LATVIA (2004 -2013)

Approved by the Cabinet of Ministers
on February 24, 2004

Contents

Introduction

Industrial Development Guidelines of Latvia is long-term policy planning document that includes basic principles of state policy, objectives and priorities for strengthening competitiveness of industrial sector.

Industrial Development Guidelines has been elaborated with an aim to update and specify the previous Industrial Development Guidelines, accepted by the Cabinet of Ministers on March 20, 2001:

- According to the point 3.2 of the Government declaration „Industrial development";
- To harmonise the main directions of industrial policy with industrial policy in the enlarged Europe, declared by the European Union (Communication from Commission „Industrial Policy in an Enlarged Europe", 2002);
- To address the imperfections in the field of industrial policy mentioned in the Progress Report by the European Commission on October 9, 2002 (vague documents formulating industrial policy; lack of inter-ministerial co-operation);
- To develop closer co-operation with other ministries and non-governmental organisations in working out and implementing the Action Plan for reaching the directions and results defined by the Guidelines.

Industrial Development Guidelines of Latvia has been elaborated according to the procedures for working out of policy planning documents defined by the Regulations No. 111 of the Cabinet of Ministers „Rules of Procedure of the Cabinet of Ministers".

The main task of the document is basing on the analysis of the present situation and problem formulation to define the basic principles and main directions of industrial policy. On basis of that, short and mid term action plan will be worked out for reaching the defined objectives, the main objective being to create efficient and competitive industry that would ensure high and stable growth of national economy.

1. Description of the Situation

Industry is one of the most significant sectors of national economy in Latvia. The share of manufacturing within the GDP was 14.8% in 2002 (mining and quarrying accounted for 0.2% of GDP). Due to the restructuring of the national economy and rapid development of service sectors (now accounting for 70.6% of GDP) the share of manufacturing within the GDP has declined compared to early nineties (in 1995 it was 22.9%). However, after the Russian economical crisis in 1998 the share of manufacturing has stabilised within 15% of the GDP.

The share of industry[1] in total employment was 16.9% and there was considerable and growing investments in 2002 (industry attracted 16% of total investment in 2002). In years 1999 to 2002 stable growth of manufacturing output was observed and annual growth rates were above 8% – exceeding essentially the general growth rate of the national economy, which was 6.9% for the respective time period. In these years the growth rates for industry in Latvia were the highest among the EU candidate countries. However, the productivity level at the same time remained low being among the lowest of all candidate countries. In 2000 it equalled to 12 thousand PPS (purchasing power standard) per one worker, which is two times lower than in the Czech Republic and Slovenia.

Food industry, wood processing, metal processing and machinery and light industry were the sectors dominating the structure of total industrial value added. Traditional sectors are predominant also in the export structure. Table 1.1 shows the structure of industry according to the level of technology.

Table 1.1 Comparison of industrial structure in Latvia and EU 15 in 2002

	Latvia	EU 15 average
Low tech sectors (%)	71	30
Medium tech sectors (%)	24	51
High tech sectors (%)	5	19

Although their share in GDP is still comparatively low, rapid growth have been observed in several high tech branches such as sub sectors of chemical industry, information technology, communications and electronics. Description of these sectors as well as SWOT analysis of Latvian industry is included in the annex.

[1] Further in the text data refers to manufacturing

Latvian industry is highly concentrated in Riga and Riga region, which shows unequal level of economic activity and development in different regions of Latvia. 61.7% of total industrial output is produced in Riga and Riga region. The share of other Latvian regions in the total industrial output is significantly lower[2]:

- Kurzeme region 12.2%
- Vidzeme region 10.8%
- Zemgale region 9.4%
- Latgale region 6.0%

Several strategic documents formulate industrial policy in Latvia, both directly formulating the main directions of industrial policy as well as defining state policy in certain areas having an effect upon industrial development:

- Declaration of the Projected Activities of the Cabinet of Ministers;
- Long-Term Economic Strategy of Latvia (adopted by the Cabinet of Ministers on July 17, 2001);
- Industrial Development Guidelines (accepted by the Cabinet of Ministers on March 20, 2001);
- Development Plan (accepted by the Cabinet of Ministers on March 18, 2003);
- National Innovation Programme for 2003-2006 (accepted by the Cabinet of Ministers on April 1, 2003).
- Sustainable Development Guidelines of Latvia (accepted by the Cabinet of Ministers on August 15, 2002)
- Conception on Development of Education for 2002-2005 (adopted by Saeima on October 17, 2002);
- Medium Term Priorities for the Activities of the Cabinet of Ministers and Action Plan for Implementation of the Declaration of the Projected Activities of the Cabinet of Ministers (accepted by the Prime Minister on March 20, 2003).

These documents formulate the most important measures in the area of industrial policy to promote high technologies, innovation, enterprise clusters, increase the role of science in development of production and to create competitive products with a higher value added.

The main elements of the process of coordination of economic policy planning and the logical interaction of different strategic documents are the following:

[2] "Latvian Regions in Figures", Central Statistical Bureau, 2001

1. Long-Term Economic Strategy of Latvia, which formulates the vision for state economic development and the main long term tasks (priorities);
2. Development policy documents such as guidelines, programmes for period of 5-10 years (Industrial Development Guidelines being among such documents), elaborates in detail the model of state economical development foreseen in the Long-Term Economic Strategy. Several aspects strongly linked with industrial development policy are included and further elaborated in other documents of economic policy (National Innovation Programme, National Programme on SME Development, Export Promotion Guidelines);
3. Action plan (for period of 1-3 years) concretises measures formulated in policy guidelines, linking those with sources of financing.

In future Latvian industry will face all challenges, conditions and opportunities caused by joining the EU. The EU enlargement will bring both increased competition in the local market as well as opportunities for reorganisation of industry and activation of its development factors, creating preconditions for strengthening competitiveness.

Taking into account industrial policy of EU, the present development directions of Latvian industry, as well as SWOT analysis of Latvian industry, industrial policy in Latvia has to focus on these main factors that are essential for further growth:

- provision with human resources and creation of the knowledge base;
- technology transfer and innovation;
- perfection of business environment and the basic infrastructure of industry;
- quality assurance;
- sustainable development;
- export promotion;
- access to finance.

The description of the above mentioned factors is included in the Annex.

Effective operation of those factors may significantly improve situation in Latvian industry, ensure progress and rapid industrial development in medium and long term.

2. Problem identification for the elaboration of governmental strategy for industrial development

Industrial competitiveness is influenced by wide range of factors. According to the identified factors having an effect on industrial competitiveness, the following main problems hampering industrial development and competitiveness growth have been formulated:

- shortage of highly qualified specialists, especially in sectors of technical engineering;
- dominance of out-dated technology, inadequate modern technology transfer, low level of innovation;
- inadequate attraction of investment for the development of the basic infrastructure and industry, in particular in regions of Latvia;
- high costs of environment and quality management system implementation, certification and maintenance, lack of structured information about voluntary and mandatory requirements of quality and environment management;
- inadequate information and support to introduction of environment protection and occupational health and safety requirements;
- no promotion of enterprises to enter new markets and inadequate marketing activities in the external market;
- difficulties to get funding to streamline the above-mentioned problems.

More detailed problem description is included in the annex.

3. Fundamental principles of industrial policy

In free market economy industrial sector is privately owned, thus industrial policy measures are mostly of facilitating type and have indirect effect on industrial competitiveness, they are directed to remove existing market imperfections and ensure environment favourable for development of industry. Several factors that are crucial for industrial competitiveness in Latvia lie within field of competency of different line ministries. Thus, elaborating and implementing industrial policy

co-ordination between different ministries and policy areas is ensured. When working out industrial policy, basic principles of EU industrial policy reflected in EC Communication "Industrial policy in an Enlarged Europe" are taken into account.

Analysis of main factors determining industrial competitiveness and respective problems shows that the following has to be put forward as basic principles of industrial development policy in Latvia:

- development of sectors (clusters) based on knowledge and scientific achievements, putting knowledge and science as the main factor in industrial development;
- modernisation and productivity improvement in traditional sectors of industry;
- significant strengthening of the role of scientific research, higher and professional education, continuing education, qualification improvement and retraining in ensuring industrial development, supply of highly qualified human resources and their involvement in industrial production;
- facilitation of innovative processes, ensuring favourable preconditions for innovation, comprehensive support to innovative activities;
- perfection of business environment to increase the level of entrepreneurial activity, create new jobs and promote employment;
- acquisition of new markets;
- improvement of efficiency of resource utilisation.

4. Objective of industrial policy

The long term objective of industrial policy is:

To create efficient and competitive industry that would ensure high and stable growth of national economy.

The main medium term tasks are to integrate successfully in the EU Common market, to improve the productivity level of industrial sector, to increase the share of high technologies within the industrial output, to ensure stable annual growth of

exports, as well as to ensure that production growth rates exceed the environmental pollution and resource consumption growth rates.

5. Results of policy, indicators of achievement

The indicators of achievement of industrial development policy objectives at macro level are:

- Annual growth rate of industrial output 7-10%;
- Productivity growth in industry from present 15% of EU-15 average to 40% in 2010;
- Increase of high tech products in the export structure from present 5% to 10% in 2010;
- Annual increase by 10% in number of enterprises that have introduced environmental management and quality management systems as well as good manufacturing practice;

6. Directions of action for the achievement of policy objectives and results

6.1 Provision with human resources and creation of the knowledge base

- Fulfilment of the market demand for qualified specialists, including developing long term contractual agreements between ministries and universities as well as between enterprises and universities;
- Provision with modern equipment and technologies for higher education establishments especially in the fields of technical engineering;
- Forecasting the breakdown of number of specialists demanded by the market according to sectors of national economy and profession groups;
- Ensuring the compliance of the content of the professional study programmes to the market needs;

- Provision of vocational secondary education and professional higher education establishments with modern equipment and access to information technologies, including permanent internet connections, including developing long term contractual agreements between enterprises and vocational training and education establishments;
- Attraction of professional experts for elaboration of professional standards and participation in the examination commissions of professional qualification; attraction of private capital for vocational training and education;
- Creation of unified system for co-ordination of vocational education;
- Establishment of regional councils of tripartite co-operation on vocational education and employment issues;
- Ensuring the compliance of the content of the continuing education study programmes to the market needs;
- Improvement of qualification and retraining of the unemployed according to the needs of labour market;
- Implementation of measures promoting enterprises to use information and communication technologies.

6.2 Promotion of science intensive technologies and development of innovation

- Creation of links between education, science and industry implementing measures foreseen in the National Innovation programme;
- Formation of harmonised and co-ordinated environment favourable for development of innovation, creation of basis for start-up and growth of innovative enterprises;

6.3 Perfection of business environment and the basic infrastructure of industry

- Creation and improvement of support instruments (financial and non-financial) for setting up of new industrial enterprises;
- Improvement of dialogue and information exchange with entrepreneurs;
- Development of industry related infrastructure;

- Assessment of possibilities to introduce tax policy initiatives aimed at facilitation of introduction of science intensive technologies and production of high technology products;
- Provision of information regarding possibilities to use EU funds for development of competitiveness of enterprises and industry related infrastructure;
- Support for preparation of project applications for receiving co-financing from EU funds.

6.4 Quality assurance

- Ensuring availability of structured information on compulsory and voluntary quality requirements;
- Perfection of legislation for accreditation and authorisation systems;
- Improvement of certification infrastructure, attraction of EU funds for development of conformity assessment infrastructure;
- Consultations and training for entrepreneurs regarding application of mandatory quality requirements;
- Optimisation of introduction, certification and maintenance costs of quality systems by promoting introduction of integrated management systems in enterprises;

6.5 Sustainable development

- Ensuring availability of information on BAT (best available techniques), principles and advantages of cleaner production;
- Support for consultations for enterprises regarding situation assessment, environmental audit, elaboration of environmental action plans and technology projects;
- Provision of information on introduction of environmental management systems and good manufacturing practice in enterprises and possible sources of finance;
- Facilitation of training of qualified work safety specialists;
- Facilitation of introduction of work safety measures in industrial enterprises;

6.6 Export promotion

- Setting up of mechanism for export crediting, insurance of transactions and export guarantees;
- Ensuring availability of information and financial resources for acquiring new markets and implementing foreign marketing activities.

7. Assessment of the impact on state and municipalities budget

Necessary financing from state and municipalities budget will be as co-financing for the activities and measures included in the Development Plan (Single Programming Document) for time period 2004.-2006, as well as in the next Development plan for time period 2007.-2013. Indicative financing foreseen in the Development Plan will be defined more precisely when elaborating the Action Plan for implementation of Industrial Development Guidelines. Reaching of the goals and results set by the Industrial Development Guidelines will bring positive effect upon state and municipalities budget as production and output of high value added products will go up, the number of people employed in production will increase and new innovative enterprises will emerge.

8. Projection of further activities

The Action Plan for implementation of Industrial Development Guidelines shall be worked out within three months after the approval of the Guidelines by the Cabinet of Ministers. Ministry of Economics is responsible for working out of the Action Plan.

Ministry of Education and Science, Ministry of Welfare, Ministry of Environment, Ministry of Finance, Information Society Bureau of State Chancellery, Ministry of Regional Development and Local Governments, Ministry of Agriculture and non-governmental organisations shall participate in working out of the Action Plan.

9. Procedure for reporting and assessment

Every year annual report on implementation of the Action Plan shall be prepared and submitted to the Cabinet of Ministers in a form of informative statement by January 31, covering activities of the preceding year. If needed, proposals for updating the Guidelines and the Action Plan will be submitted.

The evaluation of implementation of the Action Plan will serve as basis for overall assessment of the accomplishment of the Industrial Development Guidelines.

Annex

to the Industrial Development Guidelines of Latvia

A1. Characterisation of development of individual sectors of Latvian industry

Traditional industrial sectors play predominant role in the total industrial output and export structure (see figures 1.1 and 1.2).

Figure 1.1

Structure of manufacturing, % of total value added, 2002

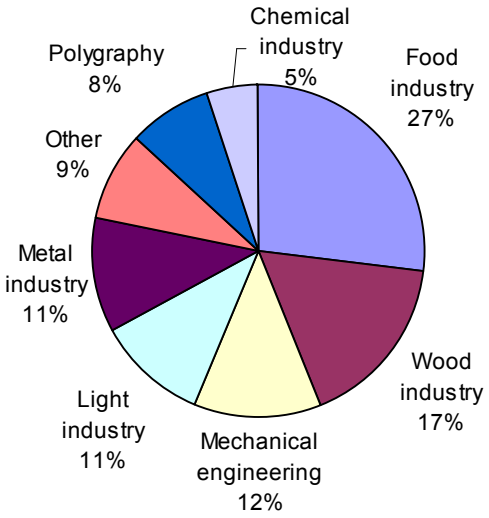
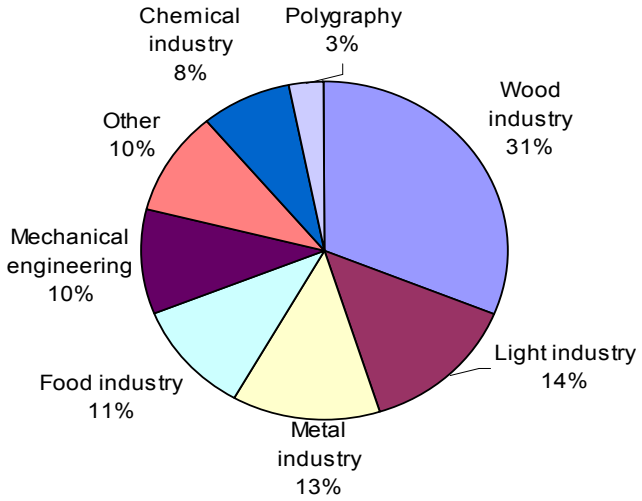


Figure 1.2

Structure of exports of manufacturing branches, 2002



Food industry is the biggest industry (approximately 33% of the total manufacturing value added). In 2002 27.8 thousand people were employed in food industry. Approximately 75% of total output of the sector is consumed in the domestic market; the remaining part is exported, mainly to Russia, Lithuania and Estonia. The sector in the last two years shows stable growth thanks to the rapid increase of external demand. The demand for Latvian food products has essentially increased in all directions of trade – to Russia and other CIS countries and the EU, also Lithuania and Estonia. At the same time there is a rapid increase of imports of food products. On the whole in the given period, producer prices declined having a negative impact on food producers. Decline of prices was caused by the tough competition in the domestic market of several groups of commodities, such as meat products, as well as competition in the foreign markets, for such groups of commodities as fishery products.

The second biggest sector is **wood processing** (almost 17% of the industrial value added). In 2002 18.7 thousand people were employed in this sector. This is the sector with the biggest growth since the regaining of independence. Wood processing outputs in the mentioned period have gone up approximately 3 times. In 2002 the growth rate of the sector was 5.8% (in the preceding year it was 6.8%). The increase of exports of wood products to other countries, including CIS and Lithuania should be noted, too. The development of wood processing industry in Latvia is ensured by stable base of raw materials. Foreign investment leads to quality improvement of the products by bringing in new technologies, training the employees of the sector and introducing international quality requirements in the enterprises.

Metal processing and machinery is the third biggest industrial sector. In 2002 production of machinery and equipment constituted about 12%, but production of metals and metal products 10.7% of total industrial value added. 70 – 80% of total output is exported, 65% of which goes to EU countries. Recent tendency is that the internal market share goes up. With the development of construction also the demand for the ready-made metal goods is increasing. In the last years a lot of investment in new technologies and equipment has been made by the enterprises, foreign investment is also increasing. In 2002 the output of the sector went up by 20%.

Light industry (textile industry and production of clothing) constitutes approximately 10% of the manufacturing value added. Only 16% of output stays in Latvia. The majority of produced output (72%) is exported to the EU member states. In 1998 Latvian textile enterprises began modernisation process investing in new technologies and equipment. In total about 20 million Lats were invested in technologies (the most successful examples being companies like „*Lauma*”,

„Juglas manufaktūra”, *„Ogre”* and *„Valmieras Stiklašķiedra”*. About 10% of total export of the sector is produced on contracting basis for foreign companies.

Chemical industry in Latvia has stable traditions, highly qualified specialists, and long history of production of a wide range of products both for final and intermediary consumption. There is also a good base for chemical research. The share of the chemical industry in the total manufacturing value added constitutes 5%. Exports of chemical products of Latvia go in almost equal shares to all the major trading partner states of Latvia. In 2002, 26% of all exports of chemical products were sent to Lithuania, 23% – to CIS, 22% – to the EU and 19% – to Estonia. 10% of products were exported to the rest of the world. In 2002 the sector demonstrated a good growth rate – one of the highest among all sectors of industry of Latvia. Exports essentially went up, especially to Lithuania and Estonia. Main restricting factors are quite traditional: low foreign demand (54%), inadequate domestic demand (36%), and competing imports (43%).

Production of **building materials** constituted 3.5% of total manufacturing value added in 2002 and the production output went up by 15.3% compared to preceding year. In 2002 there were 175 enterprises whose main activity was production of building materials, three of them were enterprises with more than 250 employees. There were 3033 persons employed in building materials producing sector (2.8% of total number employed in manufacturing) in 2002. The share of exports was 26.6% of total production of building materials in 2002. Value added per person employed was 7.2 thousand Lats in 2001, which is higher than average in manufacturing (6.2 thousand Lats). The sector has good development opportunities due to growth of construction volumes in the domestic market.

Recently rapid growth is being observed in **information technologies, communications and electronics sector** (ICTE).

Electronics and electrical engineering industry has long lasting traditions in Latvia, highly qualified specialists, and developed higher and professional education systems. A wide range of export oriented products has been permanently produced like electrical distribution and installation accessories, industrial electronics, analytical, controlling and measuring equipment, telecommunication equipment, including wireless and data transmission devices, consumer and car electronics. 65% of the total output qualifies as high technology products. The above mentioned products, taking in account their competitiveness and price level, compete successfully in the world market.

Information technologies can be mentioned as one of the fastest growing sectors, where the most rapid growth is observed in software development and related services. The operational results of Latvian Information System Cluster (IS Cluster) for 2002 were summarised and published in the beginning of 2003. The results show considerable improvement in operational indicators of the companies participating in the cluster. The summarised information shows that significant

steps have been made in 2002 by cluster's participants in expanding their export markets both in geographic terms, as well as in terms of financial turnover. Profit and turnover has grown significantly as well, at the same time investment in training of employees, patenting of new products, research and development has been increased. According to the information included in the report, nine companies included in the cluster together have reached total financial turnover of 54.7 million Lats, which is 8.1 million or 17% more than in 2001. Total revenues from export went up by 4.4 million Lats or 35%. It should be noted that 2002 in general was not favourable for global IT industry, thus the results of IS Cluster may be considered as very positive.

Nowadays rather rapid development of synergies and new sub sectors is happening in the information technologies, telecommunications and electronics sector, that sometimes create difficulties in obtaining necessary statistical basis needed for carrying out analysis. ICTE sector is one of the most obvious examples in this respect, because boundaries are disappearing gradually not only between different sectors of manufacturing, but also between industry and service sectors (like in case of software development and related services)

As shown in the Table 1.1, the competitiveness of Latvian commodities varies in different groups of countries. So, wood and wood products are the main items exported to the EU. The competitiveness of products of chemical industry is significantly lower in EU countries as it is in Lithuania and Estonia, where goes almost half of total chemical industry's export volume. The main export markets of light industry products, on the other side, are EU countries, because competitiveness of these products is high and there are better opportunities in large scale markets.

Table 1.1

Structure of exports by main groups of commodities and groups of countries in 2002

(percentage)

	EU	Lithuania and Estonia	CIS	Other countries
Wood and wood products	47,1	7,0	6,0	23,2
Metal industry and machinery products	18,8	19,7	24,5	32,0
Light industry products	16,1	9,4	12,4	8,5
Food products	3,8	18,5	27,5	16,4
Products of chemical industry	2,6	22,8	17,2	5,1
Other commodities	11,5	22,7	12,5	14,9
Total	**100**	**100**	**100**	**100**

A2. SWOT analysis of Latvian industry

Strengths:

- Intellectual potential – human resources with considerable working and scientific experience and qualification;
- Renewable forest resources;
- Basis of agricultural and fishery raw materials;
- Research basis;
- Geographical location of Latvia;
- Rapid growth rates in several high-tech sectors, opportunities for their further development and creation of linkages with traditional sectors.

Opportunities:

- Great potential for productivity improvement by introducing new equipment and technologies;
- Considerable opportunities to increase exports by improving quality of the products, introducing new types of products, cutting costs, improving marketing, etc.;
- Notable growth potential by improving the structure of the industry – facilitating production in those sectors where Latvia has comparative advantages;
- Potential for growth of value added in the traditional sectors;
- Effective utilisation of EU structural funds for development of new products and technologies, human resources and infrastructure;
- Opportunities to develop knowledge intensive production by improving links between scientific potential and industry.

Weaknesses:

- Traditional sectors still dominate the structure of Latvian industry. Food industry, wood processing, production of metals and metal products and light industry together constitute 63% of total manufacturing output. Sectors with high value added production, like electronics and sub-sectors

of information technology, etc., still have too small share in the structure industrial output. Sectors utilising cheap labour and natural resources still dominate the industrial structure, thus the total productivity level of industry remains comparatively low;

- Sectors with low value added, like wood processing, production of metals and metal products and textile industry, play the main role also in the structure of exports. Their share in total export structure exceeds 70%. The share of high-tech products (pharmaceuticals, medical products, computers and office equipment, radio, television and communication equipment and hardware, medical, precision and optical tools and equipment) makes up to 25 – 30% of total exports in EU-15 countries, in Latvia, however, the share of these products in the total export structure was 6.6% in 2002;
- In Latvia there is still comparatively small number of enterprises basing their production on up-to date and progressive technologies. Traditional sectors have small share of new products in their total output. Also investment in research and development is low in these sectors. In the end of 2002 Central Statistical Bureau of Latvia carried out the first survey on development of innovation in Latvia, covering time period from 1999 till 2001. According the results of the survey, only 19% of Latvian enterprises in the given time period could be classified as innovative and introduced to the market new or considerably improved products or had introduced new or significantly improved technologies. The share of innovative enterprises is considerably lower in Latvia compared to average in the EU countries, where the share of innovative enterprises is 45%.
- In general, Latvian industry is dominated by small and medium enterprises with number of employees less than 250, 98% in 2002. Furthermore, 76% of all enterprises are micro enterprises with up to nine employees. Insufficient growth of enterprises from medium to large and from small to medium is observed, as well as relatively low level of inter firm co-operation and rather passive formation of enterprise co-operation forms (enterprise networks, clusters).
- Industrial products in general have low level of competitiveness. For example, „in many areas of food processing there have not been reached such standards to let the products compete in international markets”[3]. The situation is better in wood processing, which produces higher quality sawn timber products and other forestry products that are able to compete in the international markets, as well as in light industry. Wood and wood products are the main items exported to the EU, but the competitiveness of products of chemical industry is significantly lower in EU countries as it is in

[3] Development plan, Ministry of Finance, 2003

Lithuania and Estonia, where goes almost half of total chemical industry's export volume. The main export markets of light industry also are EU countries, where these products compete successfully with products from other countries. Still low wages remain one of the main competitive factors of Latvian industry. In 2000, monthly workforce costs per employee made 1/10 of that in EU-15 countries and 2/3 of average in the candidate countries.

- Labour productivity level per employee remains low in Latvian industry, it is one of the lowest among the candidate countries. In 2000 it was 12 PPS per employee, which is twice as low as in Czech Republic and Slovakia.
- Latvian industry is concentrated in Riga region, there is underdeveloped production in other regions.

Threats:

- The investment level for restructuring of industry will remain low;
- Investments for development of high-tech sectors will not increase;
- Risk that opportunities provided by the EU funds will not be appropriately utilised;
- Low activity in introducing quality and environmental management systems in enterprises;
- Weak linkage between science and research and production sector.

A3. Factors influencing development of industry

1. Provision with human resources and creation of the knowledge base

The process of development of knowledge-based economy in the EU and other developed countries of the world increasingly prove that knowledge has become the most significant factor for enterprise competitiveness in 21st century. Acquisition of knowledge, preparation of specialists with adequate skills and qualification in the areas requested by the market, availability of appropriately qualified and educated workforce is of importance for all kinds of enterprises in all sectors, including traditional sectors, but most of all in high-tech sectors. Formation of information society is and important prerequisite for ensuring long-term economic development of Latvia, including development of industrial sectors. Effective use of information and communication technologies is an important precondition for development and international competitiveness of any of industrial sectors.

2. Technology transfer and innovation

Competitiveness is increasingly based on innovation – process where new scientific, technical, social, cultural or ideas from other areas, prototypes and technologies are transformed into competitive and market demanded product or service. Innovation, including development of new products and services and optimisation of production processes is becoming important for every industrial enterprise and sector.

3. Perfection of business environment and the basic infrastructure of industry

Perfection of business environment that includes financial and non-financial support measures for support of creation of new industrial enterprises, especially in the regions of Latvia, strengthening of the dialogue between state institutions and enterprises, removal of administrative barriers, perfection of tax system is one of the most important prerequisites for further development of industry.

4. Quality assurance

Quality assurance is becoming one of the main means for ensuring competitiveness of enterprises within the single market of EU. Industry has to ensure supply of qualitative and competitive products conforming EU

requirements. Special attention has to be paid to the main instruments of quality assurance – conformity assessment, standardisation, metrology and accreditation.

5. Sustainable development

Consideration of sustainable development principles nowadays plays an important role in elaboration and implementation of any policy area. In 2001 Gothenburg European Council adopted EU's Sustainable Development Strategy, the main objectives of which are based on three pillars – economic, environmental and social. Industrial policy in this respect is first of all influenced by environmental protection and work safety issues.

6. Export promotion

Taking in account the relatively small local market of Latvia, development of industry and national economy as a whole has to be based on growth of export volumes. Stable exports of products and services, steady external demand for Latvian products is an important precondition for reindustrialisation and further development of Latvia's national economy.

7. Access to finance

Availability of financing is one of the deciding factors for new and growing enterprises. It is important as well for investments in new technologies and training of personnel, for sustaining and raising competitiveness. Ability to utilise effectively opportunities offered by EU funds is an important aspect here.

8. EU approach to industrial policy

In the Communication from Commission „Industrial Policy in an Enlarged Europe"[4], which was elaborated responding to the EU enlargement process, four basic factors are mentioned that will influence the competitiveness of European industry: 1) knowledge; 2) innovation; 3) entrepreneurship; 4) sustainable development.

The document brings forward an objective for EU to become the leading region in the world in accumulating knowledge. Necessity to increase the role of education and promote investment in education, knowledge, research and technology development is underlined. The need to ensure preconditions favourable for innovation is pointed out, in order to transform knowledge into new competitive products and processes with high value added. Within the field of

[4] Industrial Policy in an Enlarged Europe. Brussels, 11.12.2002. COM(2002) 714 final

entrepreneurship, the task is set to activate entrepreneurship, especially facilitating development of small and medium sized enterprises, creation of new enterprises, promotion of entrepreneurial spirit, beginning already with education programmes in schools. Concerning sustainable development, the role of environmentally friendly production, work safety, health and social aspects is stressed.

A4. Problem formulation for the elaboration of governmental strategy for industrial development

1. Provision with human resources and creation of the knowledge base

1.1 Higher education

Due to both inertia and lack of investments, the offer of higher education currently can be characterised by its inadequate response to the needs of national economy. Though there is a positive tendency that the number of people willing to study in higher education institutions is increasing (The number of students has increased twice during the last 5 years, reaching 110 500 students in the academic year 2001/2002), there is still inadequate structure of educational / study programmes (lack of modules) and their offer, as well as outdated teaching and research infrastructure that impedes training and further development of highly skilled labour force in science and technology intensive sectors, which are essential for development of the national economy. Information-communication technologies (further in the text – ICT) sector encounters the most dramatic lack of human resources (4 to 5 times less than necessary), as ICT systems have to be designed and implemented in many other sectors. There is considerable shortage of new generation specialists also in electronics and electrical engineering sector. Electronics and electrical engineering is the sector where survey showed the highest number of enterprises that mentioned lack of specialist as one of the factors hampering production development.

In the academic year 2000/2001 434 different educational (study) programmes were offered in different higher education institutions – 152 academic, 237 professional programmes and 45 doctoral programmes. Besides, there are problems related to the content of curriculum of the offered study programmes, for instance, many doctoral study programmes have not been updated; the modularisation of programmes is insufficient, thus not ensuring the opportunities for retraining and professional development on the higher education level. Division of students that acquire higher education between different thematic clusters and study programmes has not changed considerably during the recent 2-3 years. In the academic year 2001/2002 every second student studied social sciences. In the last two years the most radical decrease has occurred in engineering sciences and technology – from 20.5% in 1997/1998 to 10.2% in 2001/2002. Ratio of students of engineering sciences and technology per 1000 residents of the age group 20-29 in Latvia falls below the average indicator in the

EU (10%) – only 7 % study in these branches (in the year 2000). It means that in Latvia there is a deficit of highly trained and skilled manpower in science and technology consuming branches, and it continues to increase.

1.2 Professional education

There were 39.5 thousand students and 13 thousand graduates in vocational education and training establishments in 2002. The major part of graduates was in social science (37.9%), while in mechanical engineering it was 5.1%, electrical engineering 4.5%, computer technologies and computer science 1.5%.

Restructuring of national economy brings new challenges and demands for vocational education and training. In general, division of vocational education learners into programme clusters partially reflects the structure of national economy. There are 124, mainly small (250 – 400 students) vocational education and training establishments in Latvia, which are not capable to offer sufficiently broad range of vocational training programmes, nor provide their quality, thus creating large differences in the education and training offer from regional and employment viewpoint.

As on October 1, 2002, there were 764 graduates of year 2002 from vocational education establishments registered by State Employment Service (SES) as unemployed (5.3% of total number of graduates or 0.83% of total number of unemployed). The main quality indicators for vocational education as the main source for human resources development and continued training, is the content of programmes or curriculum (which according to the given standard of state vocational education and professional standard is developed by the education establishment), their provision with teaching staff and resources.

The improvement of skills and knowledge, especially in the area of technological upgrading of the respective branch, upgrading of methodological skills and use of modern teaching methods, are essential. Resources and material base of the vocational education schools has not been upgraded since 80-ties. Since 1988 state vocational education establishments are under supervision of four line ministries: Ministry of Education and Science, Ministry of Agriculture, Ministry of Culture and Ministry of Health, which burdens decision making and acquisition of unified information regarding professional education, as well as leads to doubling of administrative functions and inefficient utilization of resources. The social dialogue is not developed at the regional level, which especially important in making state orders according the territorial labour market demand and for involving of persons from risk target groups in professional education.

1.3 Adult continuing training, life-long learning opportunities, training of unemployed, retraining

Continuing training for adults is divided in the following way:

- Staff training organised and financed by companies themselves; it mainly takes place in big companies (50 – 249 employees) (in 70% of such companies training has taken place);
- Training of unemployed financed by the state within the limits of its financial resources;
- Individual continuous education and training chosen and financed by individuals themselves.

Due to the limited financial resources the opportunity of continuing education and training is not provided for the groups that need it most, for instance, to small and medium size enterprises (in the year 2000 training has taken place only in 49% of companies), to unemployed, to job seekers and unemployment risk groups. Job seekers without any professional/vocational qualification constitute only 28% of all the participants in adult training programmes (in 1999), but the lack of any vocational qualification is one of the main obstacles to employment today.

Taking into account the fact that the most active continuing education and training providers are private education establishments, programmes are mainly offered in social and humanitarian sciences (total 59%) because of comparatively low costs. There is insufficient offer in engineering sciences and branches and areas supporting knowledge based economy (mechanical engineering, computer management and computer science, food processing and technology).

Restructuring of Latvian industry, as well as globalisation processes have led to a situation where the skills and qualification of big part of population no longer meet the requirements of our days labour market. Notwithstanding the fact that a big share of job-seekers are with higher education (in 2002, 65.5% of all job-seekers had secondary and professional education, 9% had higher education) and professional qualification, still they lack knowledge and skills in information technologies, communication, entrepreneurship, official state language and foreign languages that are important for development of modern society.

Vocational training courses for the unemployed, retraining and qualification improvement courses organised by the State Employment Service (SES) is one of the most important measures for helping people to adapt to the requirements of the labour market, and these courses become more and more popular each year among the unemployed. In the vocational training courses for the unemployed, retraining and qualification improvement courses organised by the State Employment Service the unemployed can participate in vocational continuing training programme which offers obtaining second or third level professional qualification

for the unemployed with previous education or professional experience. The unemployed may involve also in professional improvement programmes or in other education programmes that offer opportunities to raise qualification or acquire systemised skills and professional knowledge conforming the changing requirements of the labour market. However, due to the insufficient financing, State Employment Service can involve in the training of the unemployed no more than one fifth of all unemployed willing to be trained. In 2002, there were 4830 unemployed persons involved in the professional training courses for the unemployed that is 3.5 times less than in 1998.

1.4 Forming the basis for information society

Several studies regarding formation of information society in Latvia still show existing gaps in the field of usage of information and electronic communication technologies. The level of computerisation and internet usage remains low among industrial enterprises. In the end of 2001, 7.8% of all enterprises and 18.7% of all enterprises with more than 10 employees had their internet web page built. From all enterprises, 47% used computers in their everyday activities (for comparison – in Riga region 53% of all enterprises, in Latgale region just 32%). One of the main problems that prevent enterprises from using information and electronic communication technologies in their everyday work is lack of respective infrastructure (for example, digital fixed telecommunication lines), especially in Latgale region.

As a result of comparatively low level of computerisation and internet usage among industrial enterprises, the development level of electronic commerce remains low. Banking sector should be mentioned as an exception in this respect, which offers wide range of internet banking services that are very popular both among population an enterprises.

2. Technology transfer and innovation

At present, there is insufficient amount of scientific research carried out in Latvia to fully ensure innovative activity. Only 1.44 persons out of 1000 employees in Latvia work in the field of research and development. While in EU Member States this indicator is 5.1. State funding for science in Latvia in 2001 was Ls 10.5 million or 0.22% of GDP but business funding was only Ls 3.9 million or 0.08% of GDP. At the same time, the average figures in EU are 0.66% of GDP for public funding and 1.19% of GDP – for private funding. Orientation of economic development towards innovation is taking place throughout the world, and the

growth of GDP is considered to be in direct ratio to the growth of export of innovative products based on new technologies.

There is scientific potential that is competitive at global level in Latvia to shift the economic development on the path of knowledge based economy. The factors that hamper effective use of the scientific potential for competitiveness of the enterprises are non-compliance of the present research basis (infrastructure of science, human resources) to the requirements of our days, lack of linkage between science and business community, as well as fragmented innovation system.

Latvia has a science potential in certain areas of science, where the science schools have traditionally been strong, which may allow the country to compete on the global scale (those are physics of hard particles, modern material sciences, magnetic hydrodynamics, information technologies, biomedicine, pharmaceuticals and wood chemistry). Potential of these areas of science is witnessed by the success of Latvian scientists participating in the EU 5th Framework Programme since 1999. Total funding absorbed by implementing successful projects since 1999 exceeds the Latvian co-financing to programme's budget twice. The most successful implementators of projects under 5th Framework programme are representatives fro physics, information technology, material science and chemistry sectors. However, the further development of these sectors may be hindered by lack of young and talented specialists and scientists.

According to the survey carried out by the Central Statistical Bureau of Latvia[5], the most important factors hindering innovation are:

– shortage of funds;
– high costs of innovations;
– excessive economic risk;
– shortage of skilled staff;
– cautious attitude of buyers with regard to buying new goods and services.

The importance of economic factors is approved also by information of the survey saying that only 8% of the total number of innovative enterprises have received financial assistance from the state or local government budget for introduction of an innovation. Results of the survey show that the state does not offer enough support to research and innovation.

[5] The survey was performed according to the methodology being used in the EU and according to the requirements of Eurostat

3. Perfection of business environment and the basic infrastructure of industry

Entrepreneurial activity is still not high enough in Latvia. If looking at one of the basic indicators of entrepreneurial activity – the number of economically active SMEs per thousand residents, it was 18.3 in Latvia, according to the latest data. In the EU member states this indicator varies between 40 and 60, in Estonia it is 27 and in Poland 35.

Business activity is considerably higher in the big cities of Latvia, especially in Riga. The population in rural districts of Latvia are less economically active; the activity is particularly low in Latgale region.

The main problem areas for creation of new companies and activation of entrepreneurship, especially in the regions, have to be mentioned:

- Insufficient dialogue between Government and enterprises, SMEs in particular;
- Administrative barriers;
- Insufficient information regarding tax policy and administrative procedures for individual taxes;
- Insufficient availability of financial and non-financial support services (credits, grants, guarantees, venture capital, as well as training and consulting services, especially for start-ups);
- Insufficiently developed culture of entrepreneurship.

Tax policy is an important aspect of the business environment. The total tax burden, stability and predictability of tax system, efficiency of tax administration, as well as possibilities to use tax incentives with an aim of facilitating economic activity and development of production (production with high value added in particular) – all these factors are important. Tax policy needs to be analysed as a whole, yet it is essential to ensure that it is favourable for development of industry.

4. Quality assurance

One of the problems is lack of availability of structured information regarding compulsory and voluntary quality requirements and their implementation in industrial enterprises. For instance, in mechanical engineering, in order to produce certain type of equipment, there may be more than five directives and Latvian

legislative acts applicable, with references to different procedures of conformity assessment, standards, authorised institutions and essential requirements.

There are less than 3% of standards available in Latvian language, which hampers their full usage and production of conforming products and services (producers often use old GOST standards of USSR, because they are known and are in language understandable for workers). Also the inactivity of enterprises in standardisation process persists.

In many areas there is no authorised conformity assessment institutions, for instance, for ensuring electro magnetic compatibility, enterprises have to carry out respective tests and certification in the EU countries. It has an impact on all present or potential producers of radio equipment or equipment that creates or may be affected by the electromagnetic emissions. Due to the limited local market of Latvia and thus limited demand for certification services, certification institutions will be able to sustain not in all areas. Thus, it is essential to support enterprises which products need to be certified in foreign countries, as well as to increase the interest of enterprises in certification procedures and advantages it brings, so facilitating development of Latvian certification institutions.

In order to ensure the competitiveness of Latvian enterprises, besides compulsory safety requirements, often certification of the compliance to the voluntary quality requirements in needed. Such certification schemes as ISO 9001 and ISO 14001 are widely used in Latvia, still the awareness of the enterprises regarding application of these and other means for strengthening their competitiveness remains low. In the first half of 2003, there were 273 Latvian enterprises certified according to the standard ISO 9001. One of the main problems hampering more rapid introduction of ISO 9001 standards are the high costs arising from introduction, certification and maintenance of the quality systems, especially for SMEs, as well as lack of awareness among the entrepreneurs about the advantages application of quality systems, product certification and standardisation offers for operations in the Single market of EU.

Close inter-institutional co-operation is needed between the bodies involved in the quality assurance, in order to provide entrepreneurs with relevant information and consultations on requirements, scientific and technical achievements, standards, procedures of certification and conformity assessment, and their advantages for competing in the single market of EU.

5. Sustainable development

5.1 Environmental protection

By introducing Law „On pollution" and its dependant normative acts, a new system of issuing permits for performance of polluting activities for industrial enterprises has been set up. The law prescribes that prior to initiating of polluting activity or for performing existing activities, Latvian enterprises hereinafter shall need environmental permit, where the enterprise is analysed throughout from the aspect of environmental impact it may create, assessing production technologies and techniques being used and setting conditions for emissions of pollution, noise and vibration.

According to the Law "On Pollution" all Latvian enterprises are divided into categories A, B and C, considering the amount and effect or the risk of pollution caused to human health and the environment. Enterprises performing Category A activities have to apply the best available techniques (BAT). Enterprises falling into Category B have to introduce cleaner production principles. Category C enterprises have to operate according to the general legislation and regulations within the field of environmental protection.

In April 2003, there were 62 Category A companies in Latvia, of which 7 had already received A Category permit for performance of polluting activities. The exact number of Category B enterprises has not been assessed yet. According to the estimations made by the State Environmental Impact Assessment Bureau (SEIAB), there are around 4000 Category B enterprises operating in Latvia. 28 of them have already been provided with Category B permit. The exact number of Category C enterprises has not been assessed as well, but the estimations of SEIAB show that there are around 2000 such enterprises. By now, still no notifications regarding performing Category C polluting activities have been issued.

Among the main problems linked with receiving integrated permits for performance of polluting activities, there should be mentioned lack of information among enterprises regarding BAT, as well as limited capacity of environmental institutions (SEIAB, Regional Environmental Boards) for ensuring examination of the submitted applications for the permits and for consulting enterprises (taking into account that there should be around 4000 Category B permits issued by 2007).

Introduction of environmental management systems (ISO 14001, EMAS) is another important issue for the competitiveness of Latvian enterprises within the single market of EU. By now, ISO 14001 certificate has been issued to 38 Latvian enterprises. Since 1999 several projects on introduction of environment

management systems (EMS) in different sectors of Latvian industry have been implemented with support of Danish government. The basic goal of these projects was to familiarise companies with EMS, provide practical advice on introduction of ISO 14001 and to disseminate EMS practices among a wider range of companies. One of the main problems hampering more rapid introduction of ISO 14001 standards are the high costs arising from introduction, certification and maintenance of the quality systems, especially for SMEs.

EMAS have not been implemented in Latvia yet. The Law "On Environmental Protection" prescribes that EMAS has to be introduced in Latvia by January 1, 2004. The law prescribes that SEIAB is the institution responsible for establishing, maintaining and updating the register of enterprises involved in EMAS, accreditation system of environmental verifiers and register of environmental verifiers. SEIAB performs the registration of enterprises in the EMAS register, accreditation and monitoring of the environmental verifiers. Still there is lack of information regarding EMAS related issues in Latvia.

5.2 Work safety

According to the Law "On Work Safety" (came into force on January 1, 2002) each enterprise must have qualified and trained work safety specialist responsible for the work safety in the undertaking (performs internal monitoring of the working environment, risk assessment of the working environment, organises work safety measures, etc.). Thus, the demand for such qualified and trained specialists occurs among the employers.

At present, work safety specialists are trained in training firms according to two types of training courses (40 and 160 hour courses – basic knowledge in work safety), as well by higher education establishments, preparing higher level work safety specialists and senior work safety specialists. Taking in account that the existing length of the training courses (40 hours) was insufficient for preparing skilled work safety specialists, Regulation No 323 of the Cabinet of Ministers of 17 June 2003 "Regulations on training on labour protection issues" was adopted. The regulation prescribes order for training of work safety specialists, trusted representatives and employees in the field of work safety, as well as levels of training on work safety and respective rights of work safety specialists. The regulation prescribes 160 hours long training programme for work safety specialists and 50 hours long training programme (theoretical part) for trusted representatives. The regulation also foresees preparation of higher level work safety specialists in universities and higher education establishments.

It has to be noted, that up to recent, there were no special programmes for training work safety specialists in the higher education establishments that hampered flow of necessary qualified knowledge regarding work safety issues to enterprises. At present, the preparation of work safety specialists at universities and higher education establishments is in its initial stage and still cannot supply the necessary number of highly qualified work safety specialists.

Introduction of work safety measures in enterprises require additional finance to be invested, which is often an obstacle, especially for SMEs. The only legal norm that foresees certain tax incentive is Point 36 of the Regulation No 319 of the Cabinet of Ministers of 19 September 2003 "Regulations on application of norms of the Law on Enterprise Income Tax". It prescribes that the costs paid by the employer for implementation of measures foreseen in the Law "On Work Safety", as well as costs arising from prophylactic health protection measures in certain branches, are excluded from taxable income.

6. Export promotion

Latvia typically has deficit of current account of balance of payments that in general leaves a negative impact upon harmonised and sustainable development of the national economy. In the medium-term the current account deficit is offset by inflow of foreign direct investment (FDI), yet in the long–term slowdown of FDI inflow is foreseen, possibly creating serious threat for further development of national economy.

In December 1999, the Cabinet of Ministers approved National Program on Foreign Trade, which was aimed at promoting acquiring of new markets, as well as strengthening the positions in the existing ones and eliminating unfair competition. The implementation of the program was supposed to provide entrepreneurs with several export promotion measures – beginning with knowledge and information regarding financing of export operations and conformity assessment of the qualitative indicators for commodities to be exported, up to concrete information regarding export opportunities for certain industrial sector to specific region or country. Besides the sole investment in *Latvian Export Credit* worth 8.5 million Lats, which was necessary for ensuring its operations, the required annual financing for program's implementation was about 1.2 million Lats. From 2000 to 2002, there was insufficient financing from state budget allocated for export promotion: 98500 Lats in 2000, 356 000 Lats in 2001 and 41 000 Lats in 2002. Thus, only limited amount of foreign marketing measures could be implemented. In 2002 the last foreign representative offices of Latvia were closed in Germany and Great Britain. In the given time period there

was no support delivered for the exporting companies in the form of financial guarantees, and, within the program, there were no measures implemented for competitiveness improvement.

Additionally, Latvian economy is dominated by SMEs with limited production and marketing capacity, often not being able to implement large-scale orders and to identify market niches. As a result, the enterprises have limited opportunities to accumulate investment and current assets for introduction of new technologies that would lead to production of competitive products with higher value added.

Taking into account the model of production and sales that was present in former Soviet Union and is still present in CIS countries, many Latvian enterprises still have insufficient understanding and knowledge about working with markets, where traditionally high competition level is present and priority is put on marketing and sales abilities, precise terms of delivery, effective logistics.

In 2003, setting up of new foreign representative offices of Latvian Development Agency was started in Germany, Russia, Great Britain, Sweden and USA). Latvian Export Marketing Program has been approved, which will offer support for participation of enterprises in international exhibitions and trade fairs, as well as for consultations and training of staff.

7. Access to finance

Access to finance has a considerable impact on development of all factors influencing industrial competitiveness and solving of the problem areas that were mentioned before (financing of innovation; financing of exports and foreign marketing, investment in quality and environmental management systems, investment in cleaner technologies, etc.).

Although a lot of effort has been done to improve the capital market in Latvia and the banking sector can be considered as stable and developed in Latvia, still several objective and subjective circumstances persist that makes Latvian capital market less developed if compared with other developed countries.

Firstly, it has to be mentioned, that stock market is usually underdeveloped in transition countries. That means that entrepreneurs have to base their operations mainly on self financing and on bank loans. At the end of 2002, market capitalisation of Latvian enterprises at Riga Stock Exchange was 8% of GDP, while in developed countries it reaches even 100% of GDP.

Secondly, the average interest rates for Latvian entrepreneurs are still higher than in developed countries and other Candidate countries. It is caused by less

developed financial market, bigger currency risk (lat is pegged to SDR, not some individual currency) and other factors.

Thirdly, taking in account that low value added sectors dominate Latvian national economy, there is weak economic basis for venture capital. Venture capital plays a deciding role in development of innovation, which in turn is important for the necessary structural changes in the national economy.

All these market imperfections require compensating measures delivered by state. As the capital market develops, these measures have to be gradually improved.

Problems with access to finance are especially important for SMEs that lack crediting record and have limited collateral.

Along with Latvia's accession to the EU, effective utilisation of EU Structural funds for strengthening the industrial competitiveness becomes important, taking into account the priorities of industrial policy and orienting the financing for solving the identified problems. Availability of EU funds starting with 2004 offers significant opportunities for improvement in the field of access to finance. An important aspect here is ability of public and private sector to prepare and implement quality projects for utilisation of financing from EU funds. There are several preconditions for effective utilisation of EU funds, including availability of information regarding opportunities offered by EU funds, information on principles for project elaboration and submission. Availability of consultative support for preparation of projects is an important aspect.

Abbreviations

BAT	Best Available Techniques
CIS	Commonwealth of Independent States
CSB	Central Statistical Bureau
EC	European Commission
EU	European Union
EU-15	European Union with 15 Member States
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ICT	Information and Communication Technologies
ICTE	Information and Communication Technologies and Electronics
PPS	Purchasing Power Standard
SEIAB	State Environmental Impact Assessment Bureau
SES	State Employment Service
SME	Small and Medium-sized Enterprise